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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/563,508	01/05/2006	Go Sudo	112857-506	8475
29175	7590	08/17/2006	EXAMINER	
BELL, BOYD & LLOYD, LLC			CANTELMO, GREGG	
P. O. BOX 1135			ART UNIT	
CHICAGO, IL 60690-1135			PAPER NUMBER	

1745

DATE MAILED: 08/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/563,508

Applicant(s)

SUDO ET AL.

Examiner

Gregg Cantelmo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 9-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 9, 10 and 13-16 is/are rejected.
- 7) ☒ Claim(s) 11 12 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 January 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 1/5/06.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Preliminary Amendment

1. In response to the preliminary amendment received June 21, 2006:
 - a. Claims 1-8 have been cancelled. Claims 9-16 are pending;
 - b. The amendments to the specification have been entered.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

3. The information disclosure statement filed January 5, 2006 has been placed in the application file and the information referred to therein has been considered as to the merits.

Drawings

4. The drawings received January 5, 2006 are acceptable for examination purposes.

Specification

5. The abstract of the disclosure is objected to because it is not in the form of a single paragraph. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 14 and 15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 14 and 15 recite the limitation "said plurality of fuel mixing means". There is insufficient antecedent basis for this limitation in the claim. Claims 14 and 15 are dependent upon claim 13 which is dependent upon claim 9. Neither of claims 9 nor 13 recite the plurality of fuel mixing means. Rather claims 11 and 12 recite the plurality of fuel mixing means.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 9, 10, 13 and 16 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by U.S. Patent Application Publication No. 2003/0031907 (Gottesfeld).

Gottesfeld discloses a fuel cell apparatus comprising a fuel cell 4 generating electric power using a direct methanol (i.e. a liquid fuel) and a concentration adjusting means 12 for adjusting the concentration of the liquid fuel to a desired concentration according to the electrical output of the fuel cell (paragraph [0102] as applied to claim 9).

The concentration adjusting means 12 includes recycling the liquid fuel into the adjusting means 12 and thus adjusts the concentration, in part, by the recycled liquid effluent (as applied to claim 10).

A concentration detecting means is provided for detecting the concentration of the liquid fuel (paragraph [0102] as applied to claim 13).

Gottesfeld simultaneously discloses a method for feeding fuel to a fuel cell comprising: detecting an output mode demanded by a fuel cell for generating power using a liquid fuel (paragraph [0102]) and adjusting the concentration of the liquid fuel to a desired concentration according to the output mode (paragraph [0102] as applied to claim 16).

8. Claims 9, 10, 13 and 16 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by U.S. Patent Application Publication No. 2002/0086193 (Acker).

Acker discloses a fuel cell apparatus comprising a fuel cell 16 generating electric power using direct methanol source 22 (i.e. a liquid fuel) and a concentration adjusting means 20 for adjusting the concentration of the liquid fuel to a desired concentration according to the detector 18 detecting the output of the cell (2 as applied to claim 9).

The concentration adjusting means 20 includes recycling the liquid fuel into the adjusting means 20 via recycling line 21 and thus adjusts the concentration, in part, by the recycled liquid effluent (as applied to claim 10).

A concentration detecting means 18 is provided for detecting the concentration of the liquid fuel (as applied to claim 13).

Acker simultaneously discloses a method for feeding fuel to a fuel cell comprising: detecting an output mode demanded by a fuel cell for generating power using a liquid fuel and adjusting the concentration of the liquid fuel via a concentration regulator to a desired concentration according to the output mode (as applied to claim 16).

Allowable Subject Matter

9. Claims 11 and 12 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: none of the prior art of record are considered to teach, suggest or render obvious the fuel cell apparatus wherein the concentration adjusting means comprises a plurality of fuel mixing means which form, respectively, liquid fuels each having a predetermined concentration as recited in claim 11 and claim 12, dependent upon claim 11.

Neither Gottesfeld, Acker nor the remaining X references cited in the corresponding international search report teach or suggest the concentration adjusting means comprises a plurality of fuel mixing means which form, respectively, liquid fuels each having a predetermined concentration.

The Examiner has reviewed each of JP 2004-164954 and JP 2003-217643 which were identified as P,X references including claims which recited the limitations of claim 11 above. However the Examiner disagrees with the position of the international search

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report regarding the concentration adjusting means comprises a plurality of fuel mixing means which form, respectively, liquid fuels each having a predetermined concentration since neither reference appears to reasonably teach this arrangement. In addition it is apparent that the foreign priority document to which the instant application claims benefit does reasonably teach this arrangement as shown in Fig. 3 of the foreign priority document. Therefore since the arrangement of claim 11 appears to be supported by the foreign priority document, each of the teachings of JP 2004-164954 and JP 2003-217643 would fail to qualify as prior art since they do not pre-date the earliest effective filing date of the instant application.

10. Pending clarification to claims 14 and 15, while the prior art of record does not reasonably teach or suggest plural fuel mixing means as recited in these claims. The specific dependency of these claims is unclear since they lack antecedent basis for plural fuel fixing means. A full statement regarding the patentability of claims 14 and 15 is deferred pending clarification of the 112 rejection above.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregg Cantelmo whose telephone number is 571-272-1283. The examiner can normally be reached on Monday to Thursday, 8:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Pat Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



gc
August 14, 2006

Gregg Cantelmo
Primary Examiner
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